

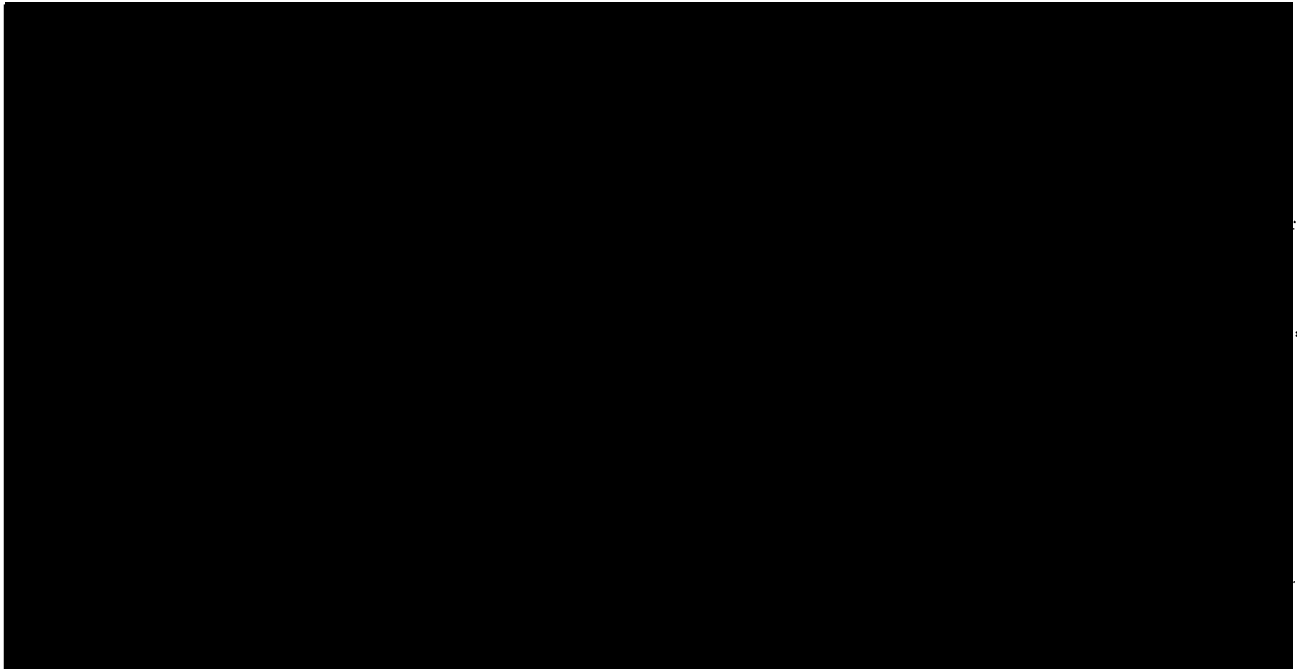
CALIFORNIA COASTAL COMMISSION

LCP PLANNING

GRANT APPLICATION FORM

APPLICANT INFORMATION

Applicant name (organization): Sonoma County Permit and Resource Management Department



PROJECT INFORMATION

Project title: Sonoma County Local Coastal Program Update – Sea Level Rise Assessment and Adaptation – Phase II

LCP/ LCP Segment: Sonoma County

Project location: City / Geographic area: Sonoma County County: Sonoma County

Project timeline: Start date: 4/30/14

End date: 4/30/16

APPLICATION MATERIALS

Introduction

Sonoma County Permit and Resource Management Department (PRMD) and the Agricultural Preservation and Open Space District (District), together with their partners the Regional Climate Protection Agency, Sonoma County Water Agency, North Bay Climate Adaptation initiative (NBCAI), and Center for Ocean Solutions/Natural Capital Project (see Attachment A), are pleased to submit a second grant application for *Sonoma County Local Coastal Program Update – Sea Level Rise Assessment and Adaptation* (Phase 2). The County was recently awarded \$150,000 from the Ocean Protection Council under the first round of grant funding to complete a portion of the work plan presented in this application. This Project would provide additional funds to complete the Local Coastal Plan update planning effort.

Sonoma County's Local Coastal Plan (LCP) was last amended in 2002 and minor changes, mainly for consistency with the 1989 General Plan, were made. The public access and biotic resources maps have not been updated since the 1980 LCP. The current LCP update will focus on five key areas: sea level rise, biotic resources, water quality, geologic hazards, and public access and will incorporate policies of the 2009 General Plan. This effort will update LCP elements and maps to reflect new information.

Sonoma County has been coordinating with the Coastal Commission on the LCP update since 2009, including five meetings and two field trips with Commission staff and preliminary review of relevant General Plan policies and existing LCP policy. PRMD staff has conducted three public workshops in coastal communities and will be incorporating responses to the community concerns in the update. Remaining steps include revisions to the Public Safety, Public Access, and Open Space and Resource Conservation elements to response to Commission comments. These revisions will incorporate more detailed data and policies into the LCP. However, the County lacks funds to complete two key elements of the Local Coastal Plan update – development of sea level rise adaptation strategies for coastal communities and production of accurate biotic resources maps (environmentally sensitive habitat areas).

In July 2013 the County submitted a request for \$250,000 to the Ocean Protection Council under the first round of the Local Coastal Program grants. The County was recently awarded \$150,000 to partially fund the Local Coastal Plan update to include an Adaptation Element. This funding will support Task 1 (data collection) described in this application¹. The Project presented in this application includes three tasks that were included in the OPC grant submittal as well as an additional task (Task 4 - Environmentally Sensitive Habitat Area map updates) estimated at \$50,000. Therefore the total project cost is \$300,000 (of which \$150,000 has recently been awarded). This grant request is to fund the remaining \$150,000 to complete the Adaption Element policies and biotic resources update.

¹ At the time this application was prepared the County the level of funding that would be awarded in the first round of grants was not know.



Sonoma County Local Coastal Zone

Project Description

A. Goals and Objective. The goal of this project is to develop and adopt updated Local Coastal Plan policies that protect coastal resources and public access and take into account future sea level rise and related climate change impacts, such as extreme weather events. The project will rely on the best available scientific data and utilize an integrated approach to protecting both built and natural infrastructure, and support the long term socio-economic and environmental resiliency of Sonoma County coastal communities. The County seeks to take a proactive rather than a reactive approach to planning for sea level rise to reduce damage and minimize ecologic and economic disruptions. Objectives of the project include the following:

- Collect and analyze available geo-spatial data (topography, project sea levels, infrastructure, and biotic resources) and supplement data gaps, as needed;
- Develop a range of policy options and implementation strategies specific to coastal communities to address the potential impacts of sea level rise;

- Integrate the policies and implementation strategies into the complete Local Coastal Plan update and obtain approval from the Board of Supervisors and the Coastal Commission;
- Provide case studies of two at-risk communities as a model of effective policies and adaptation strategies that may be extrapolated to other coastal communities in California; and
- Educate the public, property owners, and other stakeholders about the risks of sea level rise and about adaptation strategies to protect coastal resources and the built environment.

B. Project Details. Collection of data will be accomplished by the Open Space District, which has a well-established and robust spatial analysis group, including staff, software, hardware and the latest spatial data for the Sonoma County coast. The District is currently developing new data sets – including high resolution LiDAR, fine scale vegetation and habitat maps, and an analysis of development potential for the County. Analysis of data will be performed by the District, PRMD, and climate adaptation consultants, and will leverage work being conducted by NBCAI, Sonoma County Water Agency, and Natural Capital Project, using various modeling and spatial analysis tools including ArcGIS.

A range of policy options will be developed by PRMD, in collaboration with other Sonoma County agency partners and based on public input from at least three stakeholder meetings. Policy guidance will tier off of relevant state and federal policy documents related to climate adaptation, including *Adapting to Sea Level Rise: A Guide for California's Coastal Communities* (Russell and Griggs 2012) for conducting the assessment and developing adaptation strategies.

Integration of policies and implementation strategies into the LCP update and other initiatives will be accomplished by each responsible county agency – in the case of the LCP, PRMD will work closely with Coastal Commission staff to update the LCP to reflect the new information and policy direction from this effort. Agencies such as the Open Space District will integrate this information into their Strategic Plan and Acquisition Plan – which will guide future land acquisitions, including coastal easements and fee title for habitat conservation and enhancement, recreation, and coastal resiliency/planned retreat. PRMD will integrate the policy and data outcomes from this work into their Climate Action Plan 2020 – an effort currently underway with funding from the Strategic Growth Council.

Community Adaption Plans will be accomplished by selecting two communities that are vulnerable to sea level rise and have a variety of land uses and habitats that may be affected by climate change. Case studies will explore methods to make these communities and natural habitats more resilient to climate change and sea level rise, including the following potential strategies:

- Planned retreat;
- Acquisition of land to allow for species and habitat migration;
- Integrated approach to providing public access, habitat conservation and planned retreat (i.e., a green infrastructure approach);
- Movement or modification of vulnerable built infrastructure; and
- Education and preparedness training for the coastal community.

Education of the community will take place via meetings, workshops and written information to inform them of the potential impacts of sea level rise and potential strategies for adaptation.

Task 1. Data Gathering and Analysis

The County's first task will be to compile existing² high-resolution (LiDAR-based) topographic data; vegetation/biomass and habitat data; fish and wildlife occurrence data; building and other infrastructure outlines; roads; precipitation data; and localized sea level rise height predictions necessary to model storm surge and extreme flooding events for predicted sea level rise scenarios. A consultant will be selected through competitive bid to perform the modeling, and conduct an analysis of likely effects of sea level rise/storm surge/extreme flooding events on key public and private infrastructure and natural habitats in two coastal communities: Jenner at the mouth of the Russian River, and Bodega Bay. Analysis of data will be performed by the Open Space District, PRMD, and climate adaptation consultants using various modeling and spatial analysis tools including ArcGIS.

The County will use the *State of California Sea-level Rise Guidance* and the NRC Report on sea-level rise for all research and analysis. The team will collect and analyze existing geo-spatial data provided by NOAA, Ocean Protection Council, State Coastal Conservancy, National Academy of Science, FEMA, and other public agencies, academic institutions, private firms and non-government organizations. They will use existing NOAA/OPC/SCC LiDAR topography and the NOAA Coastal Services Center *Sea-level Rise and Coastal Flooding Impacts Viewer* to convey sea level rise scenarios to the local coastal communities and decision-makers. These federal and state data resources will be augmented with local LiDAR survey and habitat mapping data to provide refined information on topography, built infrastructure (roads, buildings, marinas, trails, energy and water infrastructure) and natural systems (habitats, species, connectivity).

Products/deliverables:

- Summary of existing high resolution topographic and sea level rise map data currently being collected applicable to the coast;
- GIS data shape files and printed maps, where needed;

² Due to the CA Coastal Conservancy 2009-2011 Coastal LiDAR Project and other local data collection efforts, it is not expected that new data are necessary for this analysis.

- Transferable analysis, modeling, and assessment methods;
- Maps containing water elevations and flood inundation zones under predicted sea levels, including identification of vulnerable natural and built assets; and
- Published analysis products formatted to be served to the public as PDFs and via Web viewers.

Task 2. Stakeholder Engagement

The quality, value, and acceptance of any adaptation plan ultimately depends upon the involvement and buy-in of the public agencies, private businesses, and coastal communities that would be affected by sea level rise and the associated impacts. Residents and businesses from the affected coastal communities and other stakeholders will be engaged in the development of adaptation strategies. In addition, we will engage other entities and agencies with ownership or jurisdictions over certain lands and infrastructure which are independent of the county such as State Parks, Caltrans, Pacific Gas and Electric, and independent utilities.

A minimum of three workshops will be conducted at various locations in the coastal zone to engage the community during the planning process. The purpose of the workshops is to learn from local residents and visitors about issues of concern related to sea level rise (flooding, coastal erosion, access, etc.) and to inform people about the risks and vulnerabilities and build consensus on appropriate policies and adaptation strategies. Adaptation strategies for marinas and estuaries, including evaluation of policies from other coastal communities and their effectiveness in adapting to changing climate conditions, will be analyzed in a discussion paper. Maps, revised fact sheets (see Attachment B), and discussion papers developed for these workshops will be posted on the County website.

Products/deliverables:

- Press release and public notice of workshop;
- Fact Sheets about sea level rise and its impact on the coastal zone;
- Agendas, presentations and meeting notes; and
- Discussion Paper on policies and programs from other communities.

Task 3. Policy Analysis, Adaptation Element, and Community Adaptation Plans

The sea level rise modeling and analysis, as well as input from public outreach and education, will inform and guide development of the Adaptation Element of the Local Coastal Plan. Policies will focus on multi-objective/multi-benefit approaches to climate adaptation (i.e., green and grey infrastructure benefits). The abundant natural resources, wetlands, and open space will be assessed as potential opportunities for natural infrastructure adaption. Criteria for policy development will include:

- Consistency with the state Coastal Act and County General Plan;
- Creation/continuation of economically and environmentally sustainable and resilient local coastal communities; and
- Reduction of recurrent flood damages as well as future damage potential along the coast due to sea level rise and storm surges, tsunamis, and coastal erosion.

Staff will prepare Discussion Papers on key issues related to sea level rise impacts and will outline policy options for consideration during public workshops and subsequent hearings. An Adaptation Element will be prepared for inclusion in the Local Coastal Plan Update including policies and implementation strategies. Detailed Community Adaptation Plans for two coastal communities will be used to develop community adaptation plans.

Products/deliverables:

- Discussion Papers on key issues and policy options;
- Draft Adaptation Element for inclusion in Local Coastal Plan update including policies and programs to address sea level rise;
- Community Adaptation Plans for Bodega Bay and Jenner– to serve as case studies and models for other communities; and
- Evaluation Report on lessons learned in the process.

Task 4. Environmentally Sensitive Habitat Map Update

Accurate mapping of sensitive habitat areas is critical to managing ecological resources to adapt to climate changes. Current LCP Environmentally Sensitive Habitat Area (ESHA) maps are based on data from the 1980s and 90s and do not reflect the most current data from the California Natural Diversity Database or project-specific special status species surveys that have been conducted, nor do they reliably track information provided by local residents. In addition, new species have been identified as special status species and others have established recovery plans. The ESHA maps will be updated to capture these changes.

Updated ESHA maps will inform options for sea level rise adaptation to maximize resource protection in fragile coastal ecosystems. PRMD and consultants will work together to identify sources of biotic resource data collected since the current LCP map was certified, including the Open Space District's countywide vegetation mapping program, *Sea Ranch Comprehensive Environmental Plan* (2013), and other applicable sources. A process for verifying data in coordination with the California Natural Diversity Database will be developed. Once data is verified, new information would be added to the map and database to update the ESHAs. Policies to manage development and sea level rise adaptation in ESHAs, focusing on "natural infrastructure," will be included in the LCP update.

Products/deliverables:

- Process for data verification for input to ESHA map;
- Updated ESHA maps for the Local Coastal Plan update; and
- Policies to adapt to climate change and at the same time maximize habitat protection in the coastal zone.

Public Benefits

The LCP is the foundation planning document for over 55 miles of California coastline, encompassing over 55,000 acres of land. The County has initiated a complete LCP update process and is fully committed to completing an update to reflect new

information, and to include planning policies and implementation policies that address sea-level rise and other climate change impacts. The proposed planning effort will result in a complete LCP update, including digitization of all maps; comprehensive inventory and mapping of records of all special status plant and animal species and habitat (ESHAs); comprehensive inventory and mapping of federal, state, and local public access points; adaptation strategies for decreasing the extent of damage to or loss of coastal development, infrastructure, and sensitive habitats as a result of climate change.

The project will maximize public benefits to the coast, and will improve the County's ability to protect coastal resources, reduce hazards, and to avoid economic disruption. Additional benefits include increased public and agency awareness of and proactive planning for conserving biotic diversity of coastal habitats and the protection of critical infrastructure. The project will evaluate, map, and recommend opportunities to conserve and enhance coastal habitats as well as critical infrastructure such as roads, power generation and transmission infrastructure, water supply and related infrastructure. The analysis will identify opportunities and recommend actions for habitat and species resiliency, including habitat and species shifts and movement. The LCP update will also include policies related to protecting built infrastructure, such as coastal-dependent economically important land uses (marinas, Bodega Marine Lab, Highway 1, coastal trails and parks etc.); as well as protecting visitor serving amenities.

Need of the LCP Update

Sonoma County's LCP was amended in 2002, mainly for consistency with the General Plan and only to address second units, use permits, non-conforming uses, farmworker housing, and golf courses in agricultural zones. The public access and biotic resources maps have not been updated since the 1980 LCP. Digitization of biotic resources and public access maps will result in better site planning for new development, more thorough assessment of impacts to coastal resources, and implementation of more effective mitigation measures. Adaptation planning for areas most vulnerable to climate change will increase the likelihood that coastal resources will be protected.

The LCP update will result in a reformatted document that will track the current General Plan and be easier to use. The integrated plan will eliminate the Administrative Manual and the document structure will be simplified. The new LCP will be easier to use and improved understanding of coastal planning by the public, other agencies, and decision-makers on aspects of climate change and impacts to the coastal zone.

Addressing the Effects of Climate Change

A major goal of the LCP update is to address climate changes and related impacts such as changes in habitat, increased coastal erosion, and water quality. Policy development will require evaluation of optional shoreline protection policies. Several coastal communities in Sonoma County are affected by extreme rates of cliff retreat that have destroyed homes, utilities, and roadways, threatening CalTrans right-of-way at Highway 1. Sonoma County provides incentives for removing or relocating development to more

stable areas that are out of the floodway and other strategies to accommodate planned retreat where possible.

This project would also provide resources to update ESHA maps to inform sea level rise adaptation strategies and to take into account potential changes to habitat conditions. LCP policies will consider tourism and traffic issues and will include policies to reduce greenhouse gas emission, where possible.

Likelihood of Success/Effectiveness

The grant would support Sonoma County's LPC update and allow for a comprehensive evaluation of sea level rise impacts and adaptation options along the coast. Funds will be used to conduct research, update information, develop policy analysis, and conduct public outreach in the coastal zone. These efforts will result in increased public awareness of future climate change challenges, improved inter-agency coordination, accurate mapping and effective policies. In addition, public outreach will increase acceptance of policies, increasing successful adoption.

The LCP update is a high priority and the Board of Supervisors has approved a resolution, as part of our Ocean Protection Council grant application, stating their commitment to completing the LCP update. That commitment is reiterated in a resolution for this grant application. PRMD staff has been working with staff from the Coastal Commission and have fostered positive working relationships, increasing the likelihood of success. In addition, as described above, the County has conducted a first round of public workshops in communities along the coast and has received comments and wide spread support for the effort (see fact sheets in Attachment B).

As indicated in the budget, below, and the discussion of matching funds, County-wide climate change adaptation in general, and the Local Coastal Program in particular are well supported by general fund and grant resources.

Workload

Sonoma County currently issues coastal permits under the 2001 Certified LCP. Sonoma County typically processes about 10 to 20 coastal development permits each year. A comprehensive LCP update that includes climate change policies will advance the goals of the California Coastal Act to maintain public access to the coast and protect scenic, biotic, and agricultural resources.

Project Integration/Leverage/Matching Funds

As indicated in the budget table, Sonoma County, together with our partners- the Regional Climate Protection Authority, NBCAI, and Natural Capital Project- has invested, both through general fund expenditures and leveraging grant funding, in countywide climate protection action, vegetation mapping, and infrastructure management including:

- Strategic Growth Council Climate Action 2020 grant funding to Regional Climate Protection Agency;
- Agricultural Preservation and Open Space District LiDAR and Vegetation Mapping; and

- Sonoma County Water Agency Russian River Estuary Management Plan

The County has budgeted \$315,000 of general fund money over three years to update and approve the LCP. In addition, the County recently received an Ocean Protection Council grant for \$150,000 that could fund data gathering and analysis described in Task 1. This would leave \$150,000, in part or full, to be funded under this grant or subsequent grant cycles.

C. Information on the Need for the Requested Funding

The purpose of this request is to secure additional grant funding to: 1) provide more detailed assessment of impacts on coastal communities utilizing LiDAR data and mapping; 2) provide more extensive public outreach related to planning for sea level rise; 3) develop more detailed implementation programs for two specific communities as case studies; 4) update LCP ESHA maps with current biotic resource data; and 5) incorporate an Adaptation Element into the LCP update through the adoption process.

The County is currently working with Coastal Commission staff on the LCP update but lacks funding to perform the detailed analysis required to develop community specific sea level rise risk assessments and implementation plans. We recognize the need for a more focused look at the unique risks and adaptation needs of the coastline that will be affected by rising sea levels and associated increases in storm surges, wave height, and coastal erosion. The LCP update offers an excellent opportunity to integrate detailed community-based sea level rise adaptation plans into an Adaptation Element and implementation program.

This project complements existing efforts by the Open Space District to develop and utilize high resolution topographic, terrain, and vegetation mapping and the Sonoma County Regional Parks department's work to maintain coastal access. The project also builds on the Sonoma County Water Agency's sea level rise modeling conducted as part of the Russian River Estuary Management Project.

SCHEDULE

Proposed starting date: **April 30, 2014**

Estimated completion: **April 30, 2016**

WORK PROGRAM

TASK	COMPLETION DATE
Task 1. Data Gathering and Analysis	April 30, 2015
Deliverables:	
Maps and reported used to support LCP elements and policies	January 31, 2015
Data organized into a single repository	April 30, 2015
Task 2. Stakeholder Engagement	July 31, 2015
Deliverables:	
Public Notice of Workshops	April 30, 2015
Meeting presentation materials and revised maps and fact sheets	May 31, 2015
Meeting minutes and other documentation	July 31 , 2015
Task 3. Policy Development, Adaptation Element, and Community Plans	April 30, 2016
Deliverables:	
LCP proposed Policies, adaptation strategies and issue paper	July 31, 2015
Administrative Draft LCP with Community Plans	September 30, 2015
Proposed Draft LCP update	January 31, 2015
LCP Update to Decision-makers (Planning Commission and Board of Supervisors)	April 30, 2016
Task 4. Update ESHA maps	April 30, 2016
Deliverables:	
Criteria for ESHA map biotic resource data	August 30, 2014
Administrative Draft Updated ESHA map	April 30, 2015
Final updated ESHA maps with LCP update package (see Task 3)	April 30, 2016

BENCHMARK SCHEUDLE

ACTIVITY	COMPLETION DATE
Project Management and Grant Administration	Ongoing
Data Collection	April 30, 2014 – Jan 31, 2015
Data Analysis and Sea Level Rise Modeling	Aug 31, 2014 – April 30, 2015
Stakeholder Engagement	April 30, 2015 – July 31, 2015
Develop Policy Options and Draft Community Plans	April 30, 2015 – Sept 30, 2015
Administrative Draft LCP	Sept 30, 2015 – Nov 30, 2015
Draft LCP for decision-makers	Nov 30, 2015 – Jan 31, 2016
Local Adoption	Jan 31, 2016 – April 30, 2016

APPLICATION BUDGET INFORMATION

Funding Request: \$300,000*

Total Project Cost: \$850,000

PROJECT FUNDING SOURCES

Task Number	Task	Total Cost	Allocation of total cost among all funding sources			
			Applicant's funding	LCP Grant Funding	Other Grant Funds (define below)	Other County funds (define below)
1	<i>Data Gathering and Analysis</i>	\$425,000	\$50,000	\$150,000	\$80,000	\$115,000
2	<i>Stakeholder Engagement</i>	\$25,000	\$15,000	\$10,000	0	0
3	<i>Policy Development & Community Adaptation Plans</i>	\$350,000	\$240,000	\$90,000	\$20,000	\$20,000
4	<i>ESHA map update</i>	\$60,000	\$10,000	\$50,000	0	0
TOTAL		\$850,000	\$315,00	\$300,000*	\$100,000	\$135,000

*Partial funding of \$150,000 from OPC first round grant funding

OTHER FUNDING SOURCES (NOT INCLUDING IN-KIND SERVICES)

\$ Amount	Source of funds	Status (Committed, Applied, etc)
\$315,000	County general funds for Local coastal Plan Update	County approved budget over 3 year period
\$100,000	\$1.0 million SGC Grant for county and RCPA for Climate Action Plan	Funding agreement with SGC in county 2013-14 budget
\$55,000	County-wide vegetation and habitat map and enhanced LiDAR (8 points per meter). A portion of the \$550,000 project would provide data for the coastal zone	Open Space District 2013-14 approved budget
\$40,000	Urban Footprint GHG and land use modeling (RCPA, District, count), portions supporting climate change adaption tin the coastal zone	Open Space District 2013-14 approved budget
\$40,000	Russian River Estuary Management Project	Sonoma County Water Agency

The project will be leveraged by the County's Local Coastal Program update which is funded through the County General Fund. The overall cost of the Local Coastal Program update, without Adaptation Element or Community Adaption Plans is budgeted at \$315,000. SGC grant for countywide Climate Action Plan will include some analysis of risks to coastal communities estimated at \$100,000 of the total grant amount. The Open Space District is funding LIDAR data collection and habitat mapping an estimated \$55,000 of which will cover the coastal areas. This grant will provide additional funding for higher resolution mapping in the coastal areas estimated at \$150,000 and will include \$100,000 for staff time and product deliverables noted above.

In-kind Services: \$95,000

In-kind services or contributions include additional staff time and GIS and other computer hardware and software support from the County and partner agencies to coordinate the project with other planning initiatives and is estimated at \$95,000.

The Natural Capital/COS will also provide in-kind scientific and policy analysis support and guidance to the County on vulnerability assessments and adaptation strategies using the InVEST (Integrated Valuation of Environmental Services and Tradeoffs) toolbox to assess coastal vulnerabilities to sea level rise and storms, including spatial evaluation of risks to people, property and infrastructure from erosion and inundation due to climate impacts. Natural Capital/ COS can also support the County's research and summarization of existing policies on sea level rise and coastal adaptation from other jurisdictions.

BUDGET SUMMARY

Grant Application Budget Form

Organization Name: Sonoma County

Project Title: Sonoma County Local Coastal Program Update – Sea Level Rise Assessment and Adaptation – Phase II

Requested Amount: \$ \$300,000

	Grant Request Budget	Total Project Budget (if different)
Personnel:		
Salaries and Wages ⁽¹⁾	<u>\$49,200</u>	<u>\$189,000</u>
Benefits ⁽²⁾	<u>\$32,800</u>	<u>\$126,000</u>
<i>Total Personnel</i>	<u>\$82,000</u>	<u>\$315,000</u>
Consultants:		
Direct Costs	<u>\$215,000</u>	<u>\$235,000</u>
Operating Expenses		
Postage/Shipping	<u>\$800</u>	<u></u>
Supplies/Materials ⁽³⁾	<u>\$2,000</u>	<u></u>
Travel ⁽⁴⁾	<u>\$1,200</u>	<u></u>
Indirect Costs ⁽⁵⁾	<u></u>	<u></u>
Other:	<u></u>	<u></u>
<i>Total Operating Expenses</i>	<u>\$3,000</u>	<u></u>
Total Budget	<u>\$300,000*</u>	<u>\$550,000</u>

*\$150,000 recently awarded (11/21/13) in round one of Local Coastal Program grant cycle.

⁽¹⁾ Attach an explanation of rate(s) and hours for each position for which funds are being requested.

⁽²⁾ Amount requested for benefits not to exceed 40% of amount requested for salary or wage.

⁽³⁾ Include a list of the major supplies and materials and how much they cost.

⁽⁴⁾ Travel reimbursement rates are the same as similarly situated state employees.

⁽⁵⁾ Indirect costs include, for example, a pro rata share of rent, utilities, and salaries for certain positions indirectly supporting the proposed project but not directly staffing it. Amount requested for indirect costs should be capped at 10% of amount requested for "Total Personnel."

ATTACHMENTS

Attachment A - Grant Partners

Attachment B - LCP Update - Example Fact Sheets

Attachment C - Sonoma County FY 2013-14 Billing Rates

Permit and Resource Management Department
Agricultural Preservation and Open Space District

Attachment D - Draft Resolution

This resolution is scheduled for the December 10, 2013 meeting of the Board of Supervisors of the County of Sonoma and the Board of Directors of the Agricultural Preservation and Open Space District on the consent calendar. The approved resolution will be transmitted to the Coastal Commission on, or before, December 19, 2013.

Attachment A

Grant Partners

The Project team includes the County, as the lead agency working in partnership with the Sonoma County Agricultural and Open Space District (the District), the Regional Climate Protection Authority (the Authority), Sonoma County Water Agency (Water Agency), and the North Bay Climate Adaptation Initiative (the Initiative). The Natural Capital/ Center for Ocean Solutions team will also provide in-kind services to support the County's adaptation analysis. The primary goal of the interagency approach is to integrate the various planning initiatives of these local agencies as they relate to coastal resources to further define the impacts of sea level rise and incorporate specific policies and implementation programs to address these impacts in the Local Coastal Program and resource plans of the respective agencies. Following is a brief description of each partner and their planning initiatives that could benefit from this grant opportunity.

The County is the lead agency responsible for the regulation of land development in the unincorporated areas of Sonoma County including the coastal areas. The County's Permit and Resource Management Department will serve as the lead Department, working with its partners, on this grant as part of its Local Coastal Program update.

Sonoma County Agricultural Preservation and Open Space District (District) was founded by the voters of Sonoma County in 1990 and is funded by a ¼ cent sales tax. To date the District has protected over 100,000 acres of land in Sonoma County via conservation easements and fee title, including a substantial portion of the coastal zone. The District intends to integrate the programs related to conservation and protection of coastal resources from this project into their updated Acquisition and Strategic Plans, which will guide future conservation projects in the County, including key purchases to provide natural infrastructure along the coast.

The Regional Climate Protection Authority (Authority) is a nationally unique local agency governed by appointees from the County of Sonoma and each of the nine incorporated cities. The Authority is focused on addressing climate change – both by reducing green house gas emissions and adapting to climate change. The Authority intends to incorporate policies from this effort into the Authority's Strategic Plan as well as Climate Action 2020 Plan.

Sonoma County Water Agency (Water Agency) is a special district established to provide water supply, flood control, sanitation, and sustainability projects to its community. The Water Agency is actively engaged in efforts to enhance habitats within the Russian River estuary for the benefit of listed salmon species while minimizing flood risk to existing low-lying properties along the estuary. The Water Agency intends to integrate information from this project into these efforts, which are outlined in the Russian River Biological Opinion, and continued evaluations of flood risk minimization alternatives, habitat restoration opportunities, and climate change influences on the estuary.

North Bay Climate Adaptation Initiative (the Initiative) The goal of the Initiative is to foster an open conversation between technical experts, land managers and policymakers in support of effective local scale climate adaptation strategies that preserve natural resources, biodiversity, and ecosystem services. The Initiative's purpose is to implement effective climate adaptation strategies that sustain ecological and human communities of North San Francisco Bay watersheds.

Natural Capital Project, a partnership between Stanford University, the University of Minnesota, The Nature Conservancy and World Wildlife Fund, applies approaches and tools to valuing the benefits provided by natural ecosystems.

Center for Ocean Solutions (COS) is a partnership between Stanford University, the Monterey Bay Aquarium, and the Monterey Bay Aquarium Research Institute and focuses on practical and enduring science and policy solutions to coastal and ocean management.

Attachment B
Local Coastal Plan Update - Example Fact Sheets

Sonoma County Local Coastal Plan Update Coastal Zone



Coastal bluffs



Coastal prairie and woodland



Bodega Bay

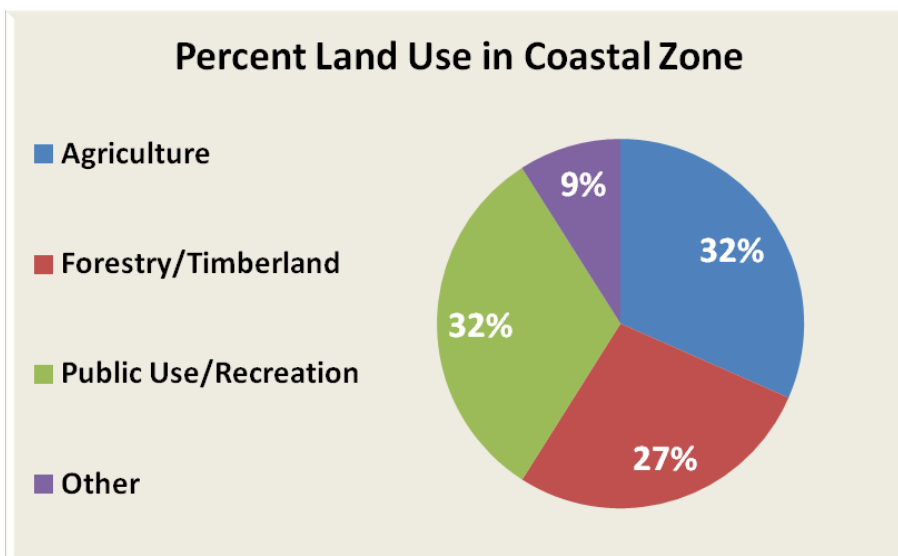
What is the Extent?

- The Sonoma County Coast is 55 miles long and comprises 55,160 acres.
- The Coastal Zone boundary extends inland to the top of the first ridgeline, along the tidally-influenced stretches of the Russian River to Duncans Mills, and along the Estero Americano to Valley Ford.

What Amount of Land is Publicly Owned?

- About one-third of the land is in public ownership, mainly by the California Department of Parks & Recreation, Sonoma County Regional Parks, and Sonoma County Agricultural Preservation & Open Space District; and even more land is protected by conservation easements.

What are the Major Land Uses?



Zoning density on land zoned for agriculture or timberland is generally one home per 160 acres of land. For subdivision purposes, the minimum parcel size is 640 acres.

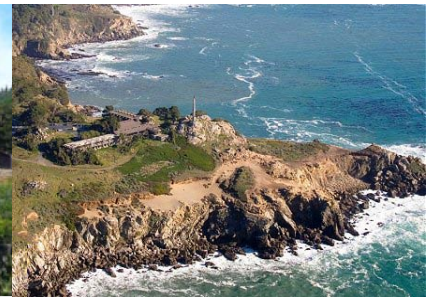
As a result, there is virtually no subdivision potential of agricultural land or timberland on the Sonoma County Coast.

Community Populations (2010 Census)

Community	Population
The Sea Ranch	1,305
Bodega Bay	1,077
Duncans Mills	175
Timber Cove	164
Valley Ford	147
Jenner-by-the-Sea	136
Sereno Del Mar	126
Salmon Creek	86
Carmet	47



The Sea Ranch



Timber Cove



Jenner-by-the-Sea



Salmon Creek

Public Water Systems

Growth potential largely depends on reliable water supply. There are 16 public water systems, the largest of which are Bodega Bay Public Utilities District and The Sea Ranch Water Company.

Ranking in Economy

1. Sheep, Dairy, and Cattle Ranching
2. Recreation and Tourism
3. Forestry and Timberland
4. Commercial Fishing (*fish landings declined 71 percent from 2002 to 2009*)

Sensitive Biotic Resources

For more information, see the Biotic Resources Fact Sheet.



Special Status Plants
48 species



Special Status Animals
35 species



*12 Different Sensitive
Natural Communities*



*4 Types of Marshes
& Other Wetlands*

For more information or to submit comments on the Local Coastal Plan Update please contact Lisa Posternak at 707-565-7383 or email to Lisa.Posternak@sonoma-county.org or mail to PRMD, 2550 Ventura Avenue, Santa Rosa, CA 95403.

Sonoma County Local Coastal Plan Update Sea Level Rise - Flooding



Predicted 100-year flood levels in Bodega Bay

"Holding back the sea requires technology; a retreat requires the management of human expectations. That's probably why we'll hold back the sea in a lot of places, even where it's not environmentally advantageous"

~ James Titus, EPA Researcher

What is the Extent of Sea Level Rise?

- Globally sea levels are now rising faster than at any time in the past 2,000 years.
- Sea levels have risen by over ½-foot during the past century.
- In California sea levels are expected to rise 1 foot in 20 years, 2 feet by 2050, and as much as 6 feet by the end of this century.

What are the Key Issues with Sea Level Rise?

A rise in sea level will result in increased bluff, dune, and shoreline erosion and increased flooding of low lying areas potentially affecting:

- Ports and Harbors
- Homes and Businesses
- Beaches, Trails and Parks
- Roads and Access
- Water, Wastewater and Drainage Facilities
- Utilities and Emergency Services



Wave action

How Do We Plan For Sea Level Rise?

- Identify and Assess Risks to Community Assets
- Prioritize Vulnerable Assets and Opportunities
- Evaluate Adaptation Strategies
- Select Strategies and Identify Actions
- Develop Adaptation Plan



Flooded homes

What Actions Can We Take to Address Sea Level Rise?

- Relocate - rebuild structures & facilities in a different location
- Retreat - allow the land to become wetlands or tidal waters
- Elevate - raise structures & roads
- Accommodate - develop floating structures
- Armor - construct seawalls and levees



Flooded street

What Areas Are at Greatest Risk of Flooding?

Predicted 100-year flood levels in 2100

Bodega Bay

- Bodega Harbor
- Bodega Harbour Yacht Club
- Lucas and Tides Wharves
- Porto Bodega
- Bodega Bay Campground
- Doran Beach
- Bayflat Road



Duncans Mills

- Most commercial properties
- Some residential properties
- State Highway 116
- Freezeout Road
- Casini Ranch



Jenner

- Post Office
- Community Center
- Fire Station
- Goat Rock State Beach
- Low-lying commercial and residential properties



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Sonoma County Local Coastal Plan Update Coastal Erosion



Gleason Beach

"In the first few hundred feet of the coast erosion is as big a risk as flooding, and I think we need to start accounting for it."

~ Bill Merrell, Heinz Center

What Factors Affect Coastal Erosion?

The location, rate, and type of coastal erosion depend on the relative resistance of shoreline rocks. Franciscan type rocks that dominate the east side of the San Andreas Fault erode more rapidly than harder rocks on the west side of the fault.

Other factors affecting the rate of coastal erosion are placement of structures, septic systems, landscape irrigation and drainage, road construction, agricultural tilling on slopes, intensive grazing, heavy rainfall, tidal action, and wave surge.

Coastal bluffs are the most susceptible to erosion and slope failure from wave and tidal action.



Gleason Beach homes

What are the Impacts on Coastal Development?

- Landslides and coastal erosion threaten roads and development along the coastline.
- State Highway 1 along the North Coast is frequently closed for repair and maintenance because of land failures.



State Highway 1 slope failures



Gleason Beach slope protection failures

- In some areas west of Highway 1, such as Gleason Beach, houses and septic systems have been built on or near edges of bluffs and on steep slopes
- Landslides together with wave action, failure of seawalls, and uncontrolled drainage may cause severe erosion, bluff failure, and loss of land that threatens development on many Gleason Beach lots.
- Coastal erosion has reduced the size of many Gleason Beach lots over the last 20 years. Some houses have been damaged to the extent they are no longer habitable and some have been demolished.

What About Seawalls?

State law allows seawalls and other shoreline protection structures to be built in certain situations but only to protect existing development. Shoreline protection structures must be properly located, designed and constructed to prevent impacts to biological and cultural resources and to avoid interfering with visual enjoyment of and access to the Coastal Zone



Failed seawall

What is the Effect of Sea Level Rise on Coastal Erosion?

- Rising sea level increases the areas at risk from coastal erosion.
- Sea level rise along the Northern California coast is expected to rise 3 to 6 feet by 2100 depending on the extent of climate change. For more information on sea level rise see the Sea Level Rise Fact Sheet.



Erosive wave action on Sonoma Coast

For more information or to submit comments on the Local Coastal Plan Update please contact: Lisa Posternak at 707-565-7383; or e-mail to Lisa.Posternak@sonoma-county.org; or mail to PRMD, 2550 Ventura Avenue, Santa Rosa, CA 95403.

Attachment C
Sonoma County FY 2013-14 Billing Rates

Permit and Resource Management Department
Agricultural Preservation and Open Space District

Permit & Resource Management Department
 Calculated Weighted Rates for Local Coastal Plan Grant
 As of November 21, 2013

	Jennifer	Sandi	Dave S	Misti H	Sr. Env'l	Crystal	Acct III	Acct Clerk III	Acct Technician
STANDARD HOURLY PAY	60.73	47.87	40.14	34.14	38.84	36.13	35.80	23.31	25.92
VARIABLE RATE	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.77
SUBTOTAL	107.49	84.73	71.05	60.43	68.75	63.95	63.37	41.26	45.88
OVERHEAD (10%)	10.75	8.47	7.10	6.04	6.87	6.40	6.34	4.13	4.59
FIXED COST	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95
CASH ALLOWANCE	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.45
TOTAL WEIGHTED RATE	124.64	99.60	84.55	72.87	82.02	76.75	76.10	51.78	56.87

Sonoma County Agricultural Preservation and Open Space District

Calculated Weighted Rates for Local Coastal Plan Grant

As of November 21, 2013

	Karen	Tom	Alex	CGA
STANDARD HOURLY PAY	49.74	36.15	27.88	25.50
VARIABLE RATE	1.77	1.77	1.77	1.77
SUBTOTAL	88.04	63.99	49.35	45.14
FIXED COST	2.95	2.95	2.95	2.95
CASH ALLOWANCE	3.45	3.45	3.45	3.45
TOTAL WEIGHTED RATE	94.44	70.39	55.75	51.54

Attachment D
Draft Resolution

This resolution is scheduled for the December 10, 2013 meeting of the Board of Supervisors of the County of Sonoma and the Board of Directors of the Agricultural Preservation and Open Space District on the consent calendar. The approved resolution will be transmitted to the Coastal Commission on, or before, December 19, 2013.



County of Sonoma

State of California

Date: December 10, 2013

Item Number: _____

Resolution Number: _____

☐ 4/5 Vote Required

Concurrent Resolution Of The Board Of Supervisors Of The County Of Sonoma And The Board Of Directors Of The Sonoma County Agricultural Preservation And Open Space District, Of The State Of California Authorizing The Director Of The Permit And Resource Management Department And The General Manager Of The Sonoma County Agricultural Preservation And Open Space District To Submit A Grant Application For The Local Coastal Program Planning Grant To The California Coastal Commission

Whereas, the California Coastal Commission, under the authority of the California Coastal Act, approved a competitive grant program to provide financial assistance to local governments in the coastal zone to amend Local Coastal Plans; and

Whereas, the goal of the grant program is to develop updates to Local Coastal Plans or other Coastal Act authorized plans reflect new information and changed conditions in light of the effects of climate change; and

Whereas, grant proposals submitted under this grant program must develop or amend a Local Coastal Plan, proposals must demonstrate that the applicable jurisdiction has committed to the process to complete a Local Coastal Plan or that such process is underway; and

Whereas, the County of Sonoma, has an effectively certified Local Coastal Plan; and

Whereas, the County of Sonoma, has initiated an update of the certified Local Coastal Plan as identified in the FY 2013-2015 Comprehensive Planning Work Plan adopted by the Board of Supervisors and has coordinated this update with the staff of the California Coastal Commission; and

Whereas, the County of Sonoma conducted three public workshops in May and June 2013 to engage stakeholders in the Local Coastal Plan update and seek input on issues related to biotic resources, sea level rise, and coastal erosion; and

Whereas, the County of Sonoma, recognizing the problems and issues associated with climate change identified in the application package attached hereto as Attachment 1 and made part of this Resolution as if fully set forth herein, desires to pursue a project that would result in the completion and submittal for certification by the California Coastal Commission of a Local Coastal Plan Amendment, that would address such impacts; and

Whereas, the County of Sonoma will coordinate with the staff of the California Coastal Commission in undertaking the project, if approved.

Now, Therefore, Be It Resolved, that the Board of Supervisors and the Board of Directors:

1. Authorizes submittal of an application for the California Coastal Commission Local Coastal Program Planning Grant in order to amend the Sonoma County Local Coastal Plan to reflect new information and changed conditions, especially in light of the effects of climate change, as part of the Local Coastal Plan Update as outlined in the grant application package attached hereto as Attachment 1 to provide financial and planning assistance, under authority of the California Coastal Act, in the amount up to \$300,000 to fund the project more particularly described in the grant application package.
2. Authorizes the Sonoma County Permit and Resource Management Department to enter into a contract with the California Coastal Commission in an amount up to \$300,000 if the grant is awarded.
3. Appoints the Director of the Sonoma County Permit and Resource Management Department or his/her designee, as agent to conduct all negotiations, execute and submit all documents including, but not limited to applications, agreements, payment requests, and so on, which may be necessary for the completion of the aforementioned project.

Be It Further Resolved, that the Board of Supervisors and the Board of Directors of the Sonoma County Agricultural Preservation and Open Space District, designates the Clerk of the Board as the custodian of the documents and other materials which constitute the record of proceedings upon which the decision herein is based. These documents may be found at the office of the Clerk of the Board, 575 Administration Drive, Room 100-A, Santa Rosa, California 95403.

Passed and Adopted by the Board of Supervisors, of the County of Sonoma and the Board of Directors of the Agricultural Preservation and Open Space District on this 10th day of December, 2013 on the following vote:

Resolution #

Date: December 10, 2013

Page 3

Supervisors:

Gorin:

Zane:

McGuire:

Carrillo:

Rabbitt:

Ayes:

Noes:

Absent:

Abstain:

So Ordered.